PRM39

IDENTIFICATION OF DISEASES FOR EQ-5D BOLT-ON ITEM DEVELOPMENT: AN EMPIRICAL APPROACH

Solem CT[1], Gu NY[1], Pickard AS[2]
[1]Pharmerit North America, LLC, Bethesda, MD, USA, [2]University of Illinois at Chicago, Chicago, IL, USA

OBJECTIVES: A perceived limitation of generic utility measures is lack of ability to capture change relevant to disease-specific areas or interventions. To test whether core EQ-5D items sufficiently measure variability in patients' self-reported quality of life scores, we aimed to identify whether the presence of a series of conditions explained residual variability in EQ-5D visual analog scale (VAS) scores, beyond EQ-5D items. **METHODS:** We utilized generalized linear models (GLM) with a gamma distribution and log link to predict VAS by the 5 EQ-5D items and the presence/absence of 10 conditions (cancer, diabetes, anxiety disorder, hypertension, coronary heart disease, stroke, asthma, COPD/other respiratory, depression, glaucoma), controlling for age, gender, race/ethnicity and number of chronic conditions (i.e., as a proxy for co-morbidities) using the 2000-2003 Medical Expenditure Panel Survey (MEPS) data. Coefficients for disease that were statistically significant (p-value$<$0.01) and showed minimally important difference (MID: coefficient $\geq$0.03) served as criteria to support further investigation of condition-specific "bolt-on" items that extend the content of EQ-5D. **RESULTS:** Of 24,830 respondents, 45.7% were male, 77.2% were white non-Hispanic and had a mean age of 45.9 years (SD 17.1). Overall mean EQ-VAS was 79.75 at first measurement. Diabetes, stroke and depression significantly predicted VAS scores alongside the EQ-5D items and demographic characteristics ($p<0.001$) and met MID criteria. When concurrently controlling for all other conditions, cancer, CHD and COPD also met criteria. **CONCLUSIONS:** Findings suggest respondents with diabetes, stroke, and depression, potentially with cancer, CHD and COPD, had significant heterogeneity in their VAS valuation of their own health that was not explained alone by EQ-5D items or demographics. This study provides one approach to identifying potential chronic conditions where disease-specific "bolt-on" items may be considered for EQ-5D.

PRM40

IMPROVING THE MEASUREMENT OF QUALITY OF LIFE BASED ON FUZZY SCALE

Chen PY[1], Yao G[2]
[1]National Taiwan University, Taipei, Taiwan, [2]National Taiwan University (Dept. of Psychology), Taipei, Taiwan

OBJECTIVES: In past two decades, researchers have proposed to combine fuzzy theory into measurement in various areas. According to their studies, combining fuzzy theory could reduce the properties differences between measurement methods and human cognition, and the results collected by fuzzy scale(FS) were also superior to those by traditional measurement in both validity and reliability. Therefore, the purpose of this study tries to measure the quality of life(QOL) by FS, and examine its own psychometrical properties and comparability with Likert scale(LS). **METHODS:** WHOQOL-BREF Taiwan version was used to compare the results collected by FS and LS, with a set of data from 404 subjects in repeated experiment design. Cronbach's alpha and hypothesis test of reliability coefficient were utilized to compare the reliability of WHOQOL-BREF in both two measurement. Confirmatory factor analysis(CFA) was used to examine the construct validity and measurement invariance (ME/I) between LS and FS at domain level. **RESULTS:** The results indicated that Cronbach's alpha coefficients of FS were significant higher than that of LS in most domains. Moreover, CFA analysis showed that the equal intercept invariance model between FS and LS measurement were supported, all fit index performed well under the factor model at domain level, CFI, RMSEA and SRMR increased very slightly after imposing the equal intercept constrain proposed by Meredith in 1993. **CONCLUSIONS:** According to the above results, FS did improve QOL measurement in reducing the measurement error, and its construct validity was supported by CFA analysis. Besides, the ME/I analysis indicated that FS was still comparable with traditional LS in the lower measurement error of QOL. In future studies, researchers may use previous studies which incorporating fuzzy scale in helping them diagnose and differentiate psychiatric diseases as reference, and look into how the fuzzy scale QOL could be used in other medical fields.

PRM41

ARE GENERAL POPULATION DATA SUITABLE FOR APPROXIMATING BASELINE UTILITY VALUES IN ECONOMIC MODELS?

Ara R, Brazier J
University of Sheffield, Sheffield, UK

OBJECTIVES: Economic models require a baseline utility profile to assess the number of quality adjusted life years (QALY) gained from an intervention. The baseline needed could be obtained from individuals without a specific health condition, depending on the definition of the health condition in the model. We explored whether utilities from the general population are suitable as proxy measures when condition specific data are not available. **METHODS:** Pooling data from four consecutive rounds of the Health Survey for England (n=41,000) and using sub-groups stratified by self-reported health conditions, we compared mean utility scores (EQ-5D) for groups without specific conditions (i.e. the preferred baseline profile) with the mean scores from similar aged cohorts of the general population (i.e. the proxy baseline profile). **RESULTS:** We found the average utility scores from the general population were good approximations for some conditions (e.g. cancer) but not all (e.g. complaints of teeth/mouth). For cohorts who have just one single condition, data from the general population who report they do not have any of the prevalent conditions could be used to approximate the baseline. **CONCLUSIONS:** We present a number of health condition and age-stratified preference-based utility values that could be used to assess the QALY gain compared to the average person who does not have that condition. We also provide age stratified data from the general population that could be used to approximate baseline preference-based utility scores when condition specific data are not available.

PRM42

VALUATION OF HR-QOL UTILITIES BY THE EQ-5D IN A GROUP OF CHRONICALLY ILL PATIENTS

Vanhaute OA[1], Peleman R[1], Annemans L[2]
[1]University Hospital, Ghent, Belgium, [2]Ghent University, Ghent, Belgium

OBJECTIVES: In order to estimate the benefits of health interventions, health related quality of life (HR-QoL) measures are traditionally mapped into utilities based on a valuation by a representative sample of the general population. However, in order to apply such valuations in cost-effectiveness studies of programs addressed to patients, it needs to be ascertained that the values of these patients are not different than these of the population. Therefore we compared the valuation of chronic patients with the already published valuation of the general population. **METHODS:** Between December 2009 and March 2010 the EQ-5D questionnaire was distributed in 15 outpatient services, treating adult (age $>$ 18 yrs) chronically ill patients in the University Hospital Ghent, Belgium. In Belgium the EQ-5D was mapped previously to the Visual Analogue Score (VAS), hence patients in our study were also asked to indicate their actual perception of HR-QoL on a VAS scale. Only EQ-5D profiles which were scored at least 10 times by different patients were considered for further evaluation. All profiles were mapped into VAS by multivariate regression. **RESULTS:** A total of 1348 questionnaires were distributed, of which 768 (57%) were completed. Male/female ratio was 41%/59%, with a mean age of 53.6. Eighteen EQ-5D profiles were scored at least 10 times, with a mean VAS of 0.64 (95% C.I. 0.63-0.66). The complete set of utilities obtained by multivariate regression was significantly different compared to the valuation by the Belgian population sample ($p<0.0001$). Especially in the profiles in which the patient indicates complete dependency or major problems, the HR-QoL value was perceived much higher by patients as compared to the general population. **CONCLUSIONS:** Chronically ill patients perceive their HR-QoL higher than estimated by the population sample. In order to evaluate health programs consequences of these findings should be considered.

PRM43

DIRECT FROM THE PATIENTS – RESEARCH INTO WHAT PATIENTS WOULD LIKE TO IMPROVE IN THEIR ELECTRONIC DIARY EXPERIENCE

O'Gorman HJ[1], Ross J[2]
[1]Almac Group, Craigavon, UK, [2]Almac Clinical Technologies, Souderton, PA, USA

OBJECTIVES: To illustrate patient needs and preferences for patient diaries in support of clinical trials and to identify what can be done to improve the electronic patient diary experience based on the patients' recommendations. **METHODS:** Three hundred seven participants (45% female and 55% male) completed a 10-minute internet survey, fielded in December 2010. The age range of the patients was 19-77 years. This internet survey focused on patients' perceived benefits and experience with current patient diaries and asked where improvements could be made **RESULTS:** From the survey positive experiences reported by patients were ease of use (66%) and simple questions (60%). 48% found no unfavorable aspects in diary keeping but 38% said that diary entries were too frequent. Patients were asked about the use of reminders and 80% stated that they would like to receive reminders via email and 55% via SMS text. With regard to the patient suggested improvements, 59% stated multiple options and more flexibility in keeping the diary would improve their experience and 58% said to shorten the time needed to make a diary entry. Further results will be presented. **CONCLUSIONS:** Simplicity came out as a key factor in patients' use of electronic diaries and should be first priority when designing them. Patients would like to feel involved in the trial and the use of reminders when they need to complete an action was a patient preference. These factors should be considered when designing an ePRO system to be used in a clinical trial.

PRM44

THE FIRST RESEARCH: ASSESSMENT OF THE WTP THRESHOLD FOR QALY BY CONTINGENT VALUATION METHOD IN RUSSIA

Zelenova O
Federal Research Institute for Health Care Organization and Information of the Ministry of Health and Social Development of Ru, Moscow, Russia

OBJECTIVES: To assess the WTP threshold for QALY in Russia. **METHODS:** We have held the opinion poll to define WTP for QALY of the 980 respondents. Questionnaire consists of demographic part: gender, age, education, hospitalization (within the last 5 years), hospitalization of any member of household (within the last 5 years) and occupation. The special part is a detailed 4categories of WTP: WTPsel for the respondent's additional QALY; WTP5sel for the respondent's additional QALY 5 years later were used to establish decision making rules; WTPfam for an additional QALY for a family member; WTPsoc: the cost that the respondent thought society should pay for someone's additional QALY were used to evaluate monetary value of other people's QALY for comparison with respondents' own QALY. **RESULTS:** Average WTPsel and WTP5sel are rather equal 69,000 and 72,000 rubles (the rub/$ rate in Russia is 30 rub for 1 $). The average WTPfam is 16% more than WTPsel.The fact that WTPfam was higher than WTPsel. Average WTPsoc is 146 000 rubles, which is more than twice as much as WTP5sel (72 000 rubles). WTP value is increasing sequentially from WTPsel toWTPsoc in each category. The main factors which influenced WTP the most are occupation, age and education. Whereas factors such as gender, hospitalization (within the last 5 years) and hospitalization of any member of household (within the last 5 years) didn't play an important role. We have compared our figures with International Survey (Takeru Shiroiwa, Japan) and have